

CLAIMS

1. A silicone rubber adhesive composition comprising the following components:-
  - A. 100 parts by weight of an organopolysiloxane having an average of two or more alkenyl groups per molecule;
  - B. an organopolysiloxane having an average of two or more silicon bonded hydrogen atoms in each molecule, in an amount such that the molar ratio of silicon bonded hydrogen atoms in component B to alkenyl groups in component A is from 0.01 to 20;
  - C. From 5 to 200 parts by weight of a calcium carbonate powder selected from the group of untreated calcium carbonate, calcium carbonate treated with an organic acid and calcium carbonate treated with an ester of an organic acid, said calcium carbonate powder having a BET specific surface area of from 5 to 50 m<sup>2</sup>/g; and
  - D. a platinum-based catalyst, in an amount sufficient to effect curing of the composition.

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2. A composition in accordance with claim 1, in which component C is a precipitated calcium carbonate powder.
3. A composition in accordance with claim 1, in which there is additionally provided a component E which is a silica powder in an amount of from 1 to 100 parts by weight per 100 parts by weight of component A.
4. A composition in accordance with claim 1, in which component B is a mixture of: -
  - i. an organopolysiloxane having silicon bonded hydrogen atoms solely in terminal groups of the molecular chain; and
  - ii. an organopolysiloxane having silicon bonded hydrogen atoms in non terminal groups.
5. A composition in accordance with claim 1, in which the molar ratio of silicon bonded hydrogen atoms in component B to alkenyl groups in component A is from 0.1 to 5.
6. A composition in accordance with claim 1 in which the calcium carbonate is pre-treated with a fatty acid or a resin acid.
7. A composition in accordance with claim 3 wherein the silica powder has a BET specific surface area of at least  $50\text{m}^2/\text{g}$ .
8. A method of bonding silicone rubber to silicone rubber materials, said method comprising:
  - I. treating a surface of the silicone rubber, or treating the surface of the silicone rubber material, or treating both the surface of a silicone rubber and a silicone rubber material with the adhesive composition of claim 1;

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II. contacting the treated surface of the silicone rubber with an untreated silicone rubber material, or contacting the treated surface of the silicone rubber material with an untreated silicone rubber material, or contacting the treated surface of the silicone rubber with the treated surface of the silicone rubber material to form a composite, and,

III. allowing the adhesive composition to cure.

9. A method of making a silicone rubber adhesive as claimed in claim 3 wherein components B, C, and D, are added during the preparation of a base compound obtained by heating and mixing components A and E.
10. A method of making a silicone rubber adhesive as claimed in claim 3 wherein components B, C, and D, are added after the preparation of a base compound prepared and obtained by heating and mixing components A and E.

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